

AMENDMENTS TO THE CLAIMS

Please cancel claims 5, 6, 10, 15, 16, 22, 23, and 26-28.

Please amend the claims as follows:

1. (Currently amended) A method comprising:
producing a modulated signal, the modulated signal being modulated over a plurality of amplitude levels, including at least a first amplitude level, a second amplitude level and a third amplitude level, wherein the second amplitude is between the first amplitude level and third amplitude level, and over a plurality of time slots, including at least a first time slot, a second time slot that is after the first time slot, and a third time slot that is after the second time slot, the modulated signal:
transitioning from the first amplitude level to the second amplitude level in the first ~~[[phase]]~~ time slot,
remaining at the second amplitude level in the second time slot, ~~[[and]]~~
transitioning from the second amplitude level to the third amplitude level in the third time ~~[[slot; and]]~~ slot, and
returning to the first amplitude level; and
transferring the modulated signal.
2. (Original) The method of claim 1, wherein the modulated signal is orthogonal.
3. (Original) The method of claim 1, wherein producing the modulated signal further comprises remaining at the second amplitude level for a plurality of time slots.

4. (Currently amended) The method of claim 1, wherein [[producing]] the modulated signal returning to the first amplitude level [[further]] comprises the modulated signal being modulated over a plurality of additional time slots, including at least a fourth time slot that is after the third time slot, a fifth time slot that is after the fourth time slot, and a sixth time slot that is after the fifth time slot, the modulated signal;

transitioning from the third amplitude level to the second amplitude level in [[a]]

the fourth [[phase]] time slot,

remaining at the second amplitude level in [[a]] the fifth time slot, and

transitioning from the second amplitude level to the first amplitude level in [[a]]

the sixth time slot.

- 5-6. (Cancelled)

7. (Original) The method of claim 1, wherein transferring the modulated signal comprises transmitting the modulated signal over a communication channel.

8. (Original) The method of claim 1, wherein transferring the modulated signal comprises transferring the modulated signal over a bus.

9. (Currently amended) A method comprising:

generating a modulated signal using a first modulation mode and a second

modulation mode, the first modulation mode having a plurality of different

positions including at least a first position, a second position, and a third

position, the second position of the first modulation mode being between

the first position and the third position of the first modulation mode, the

second modulation mode having a plurality of different positions,
including at least a first position, a second position, and a third position,
the second position of the second modulation mode being between the first
position and the third position of the second modulation mode;
the modulated signal transitioning from the first position to the second position of
the first modulation mode while in the first position of the second
modulation mode;
the modulated signal remaining in the second position of the first modulation
mode while in the second position of the second modulation mode; [[and]]
the modulated signal transitioning from the second position to the third position of
the first modulation mode while in the third position of the second
modulation [[mode.]] mode;
the modulated signal returning to first position of the first modulation mode; and
transferring the modulated signal over a communication channel.

10. (Cancelled)
11. (Original) The method of claim 9, wherein the first modulation mode comprises signal amplitude.
12. (Original) The method of claim 11, wherein the second modulation mode comprises signal phase.
13. (Original) The method of claim 9, wherein the modulated signal is orthogonal.

14. (Currently amended) The method of claim 9, wherein, in returning to the first position of the first modulation mode, the modulated signal further:
transitions from the third position to the second position of the first modulation mode while in a fourth position of the second modulation mode;
remains in the second position of the first modulation mode while in a fifth position of the second modulation mode; and
transitions from the second position to the first position of the first modulation mode while in a sixth position of the second modulation ~~[[mode.]]~~ mode;
wherein the fourth position of the second modulation mode is between the third position and the fifth position of the second modulation mode, and
wherein the fifth position of the second modulation mode is between the fourth position and the sixth position of the second modulation mode.

15 -16. (Cancelled)

17. (Currently amended) A method comprising:
producing a modulated signal, the modulated signal, the modulated signal being modulated over a plurality of amplitude levels, including at least a first amplitude level, a second amplitude level, and a third amplitude level,
wherein the second amplitude is between the first amplitude level and third amplitude level, and over a plurality of phase slots, including at least a first phase slot, a second phase slot that is after the first phase slot, and a third phase slot that is after the second phase slot, the modulated signal:
transitioning from the first amplitude level to the second amplitude level
in the first phase slot,

remaining at the second amplitude level in the second ~~[[time]]~~ phase slot,
~~[[and]]~~

transitioning from the second amplitude level to the third amplitude level
in the third ~~[[time]]~~ phase ~~[[slot;]]~~ slot, and
returning to the first amplitude level;

transferring the modulated signal;

receiving the modulated signal; and

demodulating the modulated signal.

18. (Original) The method of claim 17, wherein the modulated signal is orthogonal.
19. (Original) The method of claim 17, wherein the modulated signal remains at the second amplitude level for a plurality of phase slots.
20. (Currently amended) The method of claim 17, wherein the modulated signal ~~further transitions~~ returning to the first amplitude level includes the modulated signal transitioning from the third amplitude level to the first amplitude level in a fourth phase slot, the fourth phase slot being after the third phase slot.
21. (Currently amended) The method of claim 17, wherein the modulated signal ~~further transitions~~ returning to the first amplitude level includes the modulated signal transitioning from the third amplitude level to the second amplitude level in a fourth phase slot, the fourth phase slot being after the third phase slot, remains at the second amplitude level in a fifth phase slot, the fifth phase slot being after the fourth phase slot and transitions from the second amplitude level to the first

amplitude level in a sixth phase slot, the sixth phase slot being after the fifth phase slot.

22-23. (Cancelled)

24. (Currently amended) A method comprising:

obtaining a data signal;

modulating the data signal to form a modulated signal, the modulated signal being

one of a plurality of modulated signals, each of the plurality of modulated signals being modulated over amplitude levels, including at least a first amplitude level, a second amplitude level, and a third amplitude level, wherein the second amplitude is between the first amplitude level and third amplitude level, and over phase slots, the plurality of modulated signals comprising:

a signal that:

transitions from the first amplitude level to the second amplitude level in one of a first plurality of phase slots; and

transitions from the second amplitude level to the first amplitude level in one of a second plurality of phase slots; and

a signal that:

transitions from the first amplitude level to a third amplitude level in one of the first plurality of phase slots; or transitions from the first amplitude level to the second amplitude level in a first slot of the first plurality of phase slots, remains at the second amplitude level for a second slot of the first

plurality of phase slots, and transitions from the second amplitude level to the third amplitude level in a third slot of the first plurality of phase slots, wherein the second phase slot is after the first phase slot and the third phase slot is after the second phase slot; and

transitions from the third amplitude level to the first amplitude level in one of the second plurality of phase slots; or transitions from the third amplitude level to the second amplitude level in a first slot of the second plurality of phase slots, remains at the second amplitude level for a second slot of the second plurality of phase slots, and transitions from the second amplitude level to the first amplitude level in a third slot of the second plurality of phase slots, wherein the second phase slot is after the first phase slot and the third phase slot is after the second phase slot; and

transferring the plurality of modulated signals from a first unit to a second unit over a communication channel.

25. (Original) The method of claim 24, wherein the modulated signal is orthogonal.

26-28. (Cancelled)

29. (Currently amended) A device comprising:
an output to a communication channel; and

a signal generator to produce a modulated signal on the communication channel,
the modulated signal comprising:
a first modulation mode, the modulated signal having a plurality of
possible positions in the first modulation mode, and
a second modulation mode, the modulated signal having a plurality of
possible positions in the second modulation mode;
the modulated signal transitioning from a first position to a second position in the
first modulation mode while in a first position of the second modulation
mode;
the modulated signal remaining in the second position in the first modulation
mode while in a second position of the second modulation mode; and
the modulated signal transitioning from the second position to a third position in
the first modulation mode while in a third position of the second
modulation [[mode.]] mode;
wherein the second position of the first modulation mode is between the first
position and the third position of the first modulation mode, and wherein
the second position of the second modulation mode is between the first
position and the third position of the second modulation mode.

30. (Original) The device of claim 29, wherein the first modulation mode comprises signal amplitude.
31. (Original) The device of claim 30, wherein the second modulation mode comprises signal phase.

32. (Original) The device of claim 29, wherein the modulated signal is orthogonal.
33. (Currently amended) A system comprising:
a communication channel;
a first device to transfer a modulated signal over the communication channel, the modulated signal:
transitioning from a first amplitude level to a second amplitude level in a first ~~[[phase]]~~ time slot,
remaining at the ~~[[first]]~~ second amplitude level in a second time slot, the second time slot being after the first time slot, and
transitioning from the second amplitude level to a third amplitude level in a third time slot, the second amplitude level being between the first amplitude level and the third amplitude level, and the third time slot being after the second time slot, and
a second device to receive the modulated signal over the communication channel.
34. (Original) The system of claim 33, wherein the modulated signal is orthogonal.
35. (Original) The system of claim 33, wherein the modulated signal remains at the first amplitude level for a plurality of time slots before transitioning to the second amplitude level.